

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Lavian

Application No.: 09/522332

Filed: 03/09/2000

Title: Method and Apparatus for Accessing Network
Information On Network Device

Attorney Docket No.: 120-467

Group Art Unit: 2143

Examiner: Boutah

Mail Stop Appeal Brief-Patents

Commissioner for Patents

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APPELLANT'S (AMENDED) BRIEF PURSUANT TO 37 C.F.R. § 1.192

Dear Sir:

This Appellant's brief is hereby submitted in accordance with a Notice of Appeal filed

April 10, 2007.

I. Real Party in Interest

The real party in interest is Nortel Networks, Limited.

II. Related Appeals and Interferences

Appellant is not aware of any appeals or interferences that are related to the present application.

III. Status of the Claims

This is an appeal from a decision by the Primary Examiner dated April 4, 2007, finally rejecting claims 1-7, 9-11 and 13-34. No claims are allowed. The rejections of independent claims 1, 11, 22, 31, and 32 are the subject of this appeal. All pending claims are listed in Appendix A.

IV. Status of Amendments

The most recent amendment was submitted on April 10, 2007. It is the understanding of the Appellant that the April 10, 2007 Amendment was entered by the Examiner.

V. Summary of Claimed Subject Matter

The subject matter of independent claims 1, 11, 22, 31, and 32 is managing network resources by distributing tasks from a network management server to other network devices. In particular, tasks are distributed at the request of a network management server by downloading selected applications to network devices on which

the applications execute. The applications are downloaded from a device such as an application server. One advantage of distributing network tasks is that it reduces the processing load on the network management server, thereby enabling it to process more critical tasks.¹ Further, distributing tasks reduces bandwidth requirements by reducing the amount of status information communicated between network nodes and the network management server.² Downloading the applications associated with tasks from a device such as the application server facilitates version control and updates. Support for the limitations recited in the claims is in the Specification as described below.

In claim 1, the recited “network management server” is introduced in the detailed description as “central NMS” at page 3, line 23, and is further described throughout the Specification. The recited network management application and other features of the first element recited in the body of the claim are described at page 3, lines 20-24, “a network management application distributed to each network device collects relevant network parameters from each network device and transmits the results back to a central NMS or to other network devices on the network for further analysis.” The second recited element, “sending one or more network commands ... causing reconfiguration ...,” is described in the Specification by way of example at page 4, lines 16-20, and in more general terms at page 5, lines 1-2, and page 11, lines 4-5. The third recited element, receiving one or more status packets ...,” is described at page 11, lines 17-23. The fourth recited element, “performing an analysis of use of network resources ...,” is described at page 5, lines 4-10. The fifth recited element, “a network device configured to download

¹ Specification at page 2, lines 14-23; page 4, lines 19-20

² Id.

...,” is described at page 5, lines 12-13. The sixth recited element, “reconfiguring how network traffic is processed,” is described at page 4, lines 16-20. The seventh recited element, “sending one or more second network commands ...,” is described at page 8, lines 14-20. The eighth recited element, “receiving one or more second status packets ...,” is described at page 11, lines 22-25. The ninth recited element, “performing an analysis of use of network resources ...,” is described at page 4, lines 6-8. The tenth recited element, “sending results of the analysis to the network management server ...,” is described at page 4, lines 8-10.

In claim 11, the recited step of “executing a network management application ...,” is described in the Specification at page 3, lines 20-24, and page 5, lines 4-10. The step of “receiving a request on a network device ... to execute the network management application ...,” is described in the Specification at page 5, lines 12-13 and page 11, lines 3-7. The step of “receiving the network management application at the network device ...,” is described at page 4, lines 16-20. The step of “reconfiguring the network device” is described at page 4, lines 16-20. The remaining steps are described generally at page 5, lines 1-10. The steps of “processing the network management instructions ...” through “receiving the requested network parameter” are described in greater detail at page 6, line 27 through page 7, lines 7 and 12-24. Finally, the step of “providing results of the analysis to the network management server ...” is described at page 11, lines 22-25.

The elements recited in claim 22 correspond to those recited in claim 1, and support is found in the same passages of the Specification. Similarly, claims 31 and 32 recite elements that correspond to the elements recited in claim 11, for which support has been cited above.

VI. Grounds of Rejection to be Reviewed on Appeal

- A. Claims 1-7, 9-11 and 13-34 were rejected under 35 U.S.C. 103(a) as being unpatentable over Bonnel in view of Agarwal
- B. The Examiner indicated in the Advisory Action of April 4, 2007 that the previous Amendment raised issues that would require further search

VII. Argument

- A. **The recited invention distinguishes Bonnel in view of Agarwal because network management applications are distributed to a network device from another device at the request of the network management server**

With regard to claim 1, the Office asserts that the recited limitation:

the network management server further configured to request that a network device load the network management application, ... network device configured to **download** the network management application and execute the network management application which causes the network device to perform the network management instructions including, (emphasis added)

is taught in Bonnel at column 7, lines 14-21³, which describes “knowledge modules”

which are selectively loaded based on resources, parameters and events of interest.

However, the claimed network management application is distinct from the knowledge modules of Bonnel because, as described in the Bonnel passage cited by the Examiner,

“knowledge modules are **stored locally** at the site of each server system on which the

³ Note that the Examiner relies upon Agarwal for teaching other limitations of the claim.

agent process is to run.”⁴ (emphasis added) Further, Bonnel teaches that the agent selects the appropriate knowledge modules to load, rather than the console system, i.e., consoles tell agents which resources are of interest ... in response, the agent loads knowledge modules.⁵ It follows that the knowledge modules are neither downloaded from another device, nor downloaded at the request of a network management device such as the “console system,” which the Office equates to the claimed network management server. As taught in the Specification, “the NMS requests that a network device load a set of operations associated with a particular task (step 502) ... [i]n response to the request to load a set of operations, the network device accesses an application server having the application(s) capable of performing the set of operations associated with the task (step 504) [t]he network device loads and executes the requested application (step 508).”⁶

The distinctive distribution of network management applications from the application server to a network device at the request of the network management server is recited in each of the independent claims. For example, claim 1 recites “performing an analysis of use of network resources on the one or more network devices connected to a network using the one or more status packets, the network management server further configured to **request that a network device load the network management application** ... a network device configured to **download the network management application** and execute the network management application which causes the network device to perform the network management instructions.” (emphasis added) Similarly, claim 11 recites “receiving the network management application at the network device

⁴ Bonnel at column 7, lines 15-16

⁵ Bonnel at column 7, lines 15-22

over the network wherein the network management application includes the network management instructions for reconfiguring the network device and performing the analysis task.” Similarly, claim 22 recites “the network management server further configured to request that a network device load the network management application.” Similarly, claim 31 recites “means for receiving the network management application at the network device over the network wherein the network management application includes the network management instructions for performing the analysis task,” and claim 32 recites “receive a network management application at the network device over the network wherein the network management application includes the network management instructions for performing the analysis task.” The rejections of independent claims 1, 11, 22, 31, and 32 should therefore be withdrawn.

Claims 2-7, 9-10, 13-30, and 33-34 are dependent claims which further distinguish the invention. The rejections of those claims based on Bonnel in view of Agarwal should therefore also be withdrawn.

B. A new search is not justified because the April 10, 2007 amendment merely emphasizes a limitation that has always been in the claims

In the continuation sheet of the Advisory Action dated April 4, 2007 the Examiner asserts that the amendment raises new issues that would require further consideration and search. In the amendment, Applicant emphasizes the distinctive

⁶ Specification, page 5, lines 4-5, 8-10 and 17

limitation that the network device download an application from another device at the request of the network management server, but only because it became necessary to point out that limitation to respond to the assertion by the Examiner that the knowledge modules of Bonnel are equivalent to the claimed network management application. The limitations in question have always been recited in the claims, even as originally filed.

For example, original claim 1 reads as follows:

a network device operatively connected to the network having a processor capable of **downloading a task over the network**, executing the task, and providing results from the task; and
a network management server that **requests that the network device execute a task** related to the management of resources associated with the network and receives the results from the task for use in management of the network. (emphasis added)

Similar limitations are recited in independent claims 11, 22, 31 and 32 as originally filed.

In the April 10, 2007 amendment, claim 1 was amended to read as follows:

performing an analysis of use of network resources on the one or more network devices connected to a network using the one or more status packets, the network management server further configured to **request that a network device load the network management application from another device**, the network device being among the one or more network devices; and
a network device configured to **download the network management application** and execute the network management application which causes the network device to perform the network management instructions including (emphasis added)

Note that the added language "from another device" is redundant with the pre-existing language in bold typeface, i.e., a network device would not "download" an application from itself. Therefore, a new search is not justified.⁷

⁷ This application has been in active prosecution since January of 2003. Since that time, the Office has issued numerous office actions on the merits, including non-final and final rejections, and advisory actions. If it is the position of the Office that limitations recited in the claims since the date of filing have not yet been searched and considered, Appellant respectfully request an explanation as to how and why that happened.

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VIII. Conclusion

For the reasons stated above, both the rejections of independent claims 1, 11, 22, 31, and 32, and the asserted need for a new search are unfounded. Appellant therefore requests that the rejections be withdrawn and the case put forward for allowance.

Respectfully Submitted,

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Date


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Docket No. 120-467

Appendix A - Claims

1. (previously presented) A system for managing network resources comprising:

a network management server configured to execute a network management application which causes the network management server to perform network management instructions including,

sending one or more network commands to one or more network devices connected to a network causing reconfiguration of how the one or more network devices process network traffic,

receiving one or more status packets from the one more network devices in response to the one or more network commands, and

performing an analysis of use of network resources on the one or more network devices connected to a network using the one or more status packets, the network management server further configured to request that a network device load the network management application, the network device being among the one or more network devices; and

a network device configured to download the network management application and execute the network management application which causes the network device to perform the network management instructions including,

reconfiguring how network traffic is processed,

sending one or more second network commands to one of the one or more network devices,

receiving one or more second status packets from one of the one more network devices in response to the one or more second network commands,

performing an analysis of use of network resources on the one or more network devices connected to a network using the one or more second status packets, and

sending results of the analysis to the network management server for use in management of the network,

the network device having a loop back address via which the downloaded network management application accesses local storage and resources using a local network protocol stack and local network protocol parameters.

2. (previously presented) The system in claim 1, wherein the task network management application includes network management instructions compatible with a network management protocol.
3. (original) The system in claim 2, wherein the network management protocol includes the simple network management protocol (SNMP).
4. (previously presented) The system in claim 1, wherein the task network management application includes network management instructions compatible with an object-oriented programming language.
5. (previously presented) The system in claim 1, wherein the task network management application includes network management instructions compatible with byte-codes executable on a virtual machine.
6. (original) The system in claim 5, wherein the virtual machine is compatible with the Java Virtual Machine.
7. (previously presented) The system in claim 1, wherein the task network management application includes network management instructions compatible with the Java object-oriented programming language.
8. (cancelled)
9. (previously presented) The system in claim 1, further comprising an application server device connected to the network and used to store one or more network management applications downloadable onto the network device.

10. (previously presented) The system in claim 1, wherein the task network monitors a network parameter associated with the network and notifies the network management server when the network parameter reaches a threshold level.

11. (previously presented) A computer-implemented method of distributing management of network resources on a network to network devices exchanging information over the network, comprising:

- executing a network management application through a network management server to perform network management instructions including an analysis of use of network resources on one or more network devices connected to a network;

- receiving a request on a network device among the one or more network devices to execute the network management application including reconfiguring how one or more of the network devices processes network traffic and performing an analysis of use of network resources on one or more other network devices connected to the network;

- receiving the network management application at the network device over the network wherein the network management application includes the network management instructions for reconfiguring the network device and performing the analysis task;

- reconfiguring the network device;

- processing the network management instructions on the network device that requests a network parameter from a remote network device, the remote network device being among the one or more other network devices, the network management instructions including;

- transmitting the request for the network parameter over the network to the remote network; and

- receiving the requested network parameter over the network from the remote network device,

- processing the network management instructions including performing the analysis on the network device using the network parameter; and

- providing results of the analysis to the network management server in response to the request to execute the task,

the network device having a loop back address, and the received network management application performing the step of accessing local storage and resources using a local network protocol stack and local network protocol parameters via the loop back address.

12. (cancelled)

13. (previously presented) The method in claim 11, wherein providing results further comprises:
notifying a the network management server when the network parameter reaches a threshold level.

14. (previously presented) The method in claim 11 wherein the task network management application includes network management instructions compatible with a network management protocol.

15. (original) The method in claim 14 wherein the network management protocol includes the simple network management protocol (SNMP).

16. (previously presented) The method in claim 11, wherein the task network management application includes network management instructions compatible with an object-oriented programming language.

17. (previously presented) The method in claim 11, wherein the task network management application includes network management instructions compatible with byte-codes executable on a virtual machine.

18. (original) The method in claim 16, wherein the virtual machine is compatible with the Java Virtual Machine.

19. (previously presented) The method in claim 11, wherein the task network management application includes network management instructions compatible with the Java object-oriented programming language.

20. (previously presented) The method in claim 11, wherein the a processor on the network device executes a network management instruction that analyzes the utilization of network resources on one or more network devices connected to the network.

21. (previously presented) The method in claim 11, further comprising an application server device connected to the network, the application server device being used to store one or more network management applications that are downloadable onto the network device.

22. (previously presented) An apparatus for distributing network management of a network to network devices, comprising:

- a network management server configured to execute a network management application which causes the network management server to perform network management instructions including,

- sending one or more network commands to one or more network devices connected to a network,

- receiving one or more status packets from the one more network devices in response to the one or more network commands, and

- performing an analysis of use of network resources on the one or more network devices connected to a network using the one or more status packets, the network management server further configured to request that a network device load the network management application, the network device being among the one or more network devices; and

- a processor; and

- a memory containing instructions when executed cause the processor to,

- receive the request on the network device to execute the network management application that performs the network management instructions

receive the network management application over the network on the network device wherein the network management application has the instructions for performing the network management instructions including,

reconfiguring how the network devices processes network traffic,

requesting network parameters from a remote network device, the remote network device being among the one or more network devices,

transmitting the request for the network parameter over the network to the remote network,

receiving the requested network parameter over the network from the remote network device,

processing the instruction for performing the analysis on the remote network device using the network parameter; and

providing results of the analysis to the network management server in response to the request to execute the network management instructions,

the network device having a loop back address, and the received network management application having instructions for accessing local storage and resources using a local network protocol stack and local network protocol parameters via the loop back address.

23. (previously presented) The apparatus of claim 22 wherein the memory contains additional instructions for execution on the processor that continue processing network management instructions on the network device using the network parameter, and providing and provide results of the analysis in response to the request to execute the task.

24. (original) The apparatus of claim 22 wherein the memory contains additional instructions for execution on the processor and providing results of the analysis that further notify the network management server when the network parameter reaches a threshold level.

25. (previously presented) The apparatus of claim 22 wherein the processor executes network management instructions compatible with a network management protocol.

26. (original) The apparatus of claim 25 wherein the network management protocol includes the simple network management protocol (SNMP).

27. (previously presented) The apparatus of claim 22, wherein the processor executes network management instructions compatible with an object-oriented programming language.

28. (previously presented) The apparatus of claim 22, wherein the processor executes network management instructions compatible with byte-codes executable on a virtual machine.

29. (original) The apparatus of claim 28, wherein the virtual machine is compatible with the Java Virtual Machine.

30. (previously presented) The apparatus of claim 22, wherein the processor executes network management instructions compatible with the Java object-oriented programming language.

31. (previously presented) An apparatus for distributing network management of a network to network devices exchanging information over the network comprising:

means for executing a network management application through a network management server to perform network management instructions including an analysis of use of network resources on one or more network devices connected to a network:

means for receiving a request on a network device among the one or more other network devices to execute the network management application including reconfiguring how the network devices processes network traffic and performing an analysis of use of network resources on one or more other network devices connected to the network;

means for receiving on the network management application at the network device over the network wherein the network management application includes the network management instructions for performing the analysis task;

means for processing the network management instructions on the network device that requests network parameters from a remote network device, the remote network device being among the one or more other network devices, the network management instructions including,

means for transmitting the request for the network parameter over the network to the remote network; and

means for receiving the requested network parameter from the remote network device over the network,

means for processing the network management instructions including reconfiguring how the network devices processes network traffic and performing the analysis on the network device using the network parameter; and

means for providing results of the analysis to the network management server in response to the request to execute the task,

the network device having a loop back address, and the received network management instructions including means for accessing local storage and resources using a local network protocol stack and local network protocol parameters via the loop back address.

32. (previously presented) A computer program product, for distributing network management of a network to network devices exchanging information over the network, the product comprising program code instructions to cause a processor to:

execute a network management application through a network management server to perform network management instructions including an analysis of use of network resources on one or more network devices connected to a network,

receive a request on a network device among the one or more network devices to execute the network management application including reconfiguring how the network devices processes network traffic and performing an analysis of use of network resources on one or more other network devices connected to the network;

receive an the network management application at the network device over the network wherein the network management application includes the network management instructions for performing the analysis task;

process the network management instructions on the network device that requests network parameters from a remote network device, the remote network device being among the one or more other network devices, the network management instructions including instructions to cause the processor to.

transmit the request for the network parameter over the network to the remote network; and

receive from the remote network device the requested network parameter over the network

process the network management instructions including reconfiguring how the network devices processes network traffic and performing the analysis on the network device using the network parameter; and

provide results of the analysis to the network management server in response to the request to execute the task,

the network device having a loop back address, and the network management instructions causing the processor to access local storage and resources using a local network protocol stack and local network protocol parameters via the loop back address.

33. (previously presented) The system in claim 1, wherein the network device performing an analysis of use of network resources on the one or more network devices connected to a network reduces processing load on the network management server and frees up the network management server to perform tasks other than performing an analysis of use of network resources.

34. (previously presented) The method in claim 11, wherein processing the network management instructions on the network device reduces processing load on the network management server and frees up the network management server to perform tasks other than performing an analysis of use of network resources.

Appendix B - Evidence Submitted

None.

Appendix C - Related Proceedings

None.